

W5YI

America's Oldest Ham Radio Newsletter

REPORT

Up to the minute news from the world of amateur radio, personal computing and emerging electronics. While no guarantee is made, information is from sources we believe to be reliable.

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ARRL Clarifies its Privatized Enforcement Procedure

The American Radio Relay League has submitted Reply comments on its proposal (assigned RM-9150) to create a streamlined, privatized complaint procedure to address instances of malicious interference in the Amateur Radio Service.

The League said it reviewed twenty-one comments submitted by individual radio amateurs, or groups of radio amateurs, regarding the Petition and "All but two express support for a privatized enforcement procedure such as suggested by the League."

ARRL concluded "The support for the League's Petition found in the comments establishes both the need for a procedure similar to that proposed in the Petition, and a willingness on the part of the Amateur Radio community to do even more than it has for years in policing its own bands, provided that it has the procedural tools to do so."

Considering the "...positive support reflected in the comments," the ARRL asked that the FCC issue an immediate *Notice of Proposed Rulemaking* to amend the Parts 0 and 1 regulations as necessary to implement the new procedure.

ARRL views on the comments

The comments, ARRL said, were strongly supportive of the petition. Most simply indicated that instances of serious rule violations are becoming a serious issue in the Amateur Service, and acknowledged that the Commission is not able to respond promptly, or at all, in most such cases. That reflected what the League perceived as the typical

response to problems, and the character, of licensed radio amateurs generally: "They are rule compliant to a fault," ARRL said "and are most intolerant of disruption of the public service and public safety communications that they conduct."

Some of the comments supported the petition, but felt that the League's proposal did not go far enough in dealing with compliance issued.

"Mr. Anthony Amato, KR4UQ, felt that repeated indecent or obscene language instances on the air should be included in the category of serious rule violations that might be addressed through a private complaint procedure.

"The Keller Peak Repeater Association strongly urged that entities in addition to members of the Amateur Auxiliary to the Commission's Compliance and Information Bureau should be able to prepare and submit cases directly to the Chief Administrative Law Judge (ALJ) for a determination whether submitted evidence constitutes a *prima facie* case which might be designated for hearing."

The ARRL also acknowledged two comments which opposed the privatized enforcement concept.

"The comments of Karl A. Kopetsky, K9AQI suggest variously that administrative hearing locations would have to be in the District of Columbia, thus making presentation of a case difficult; that there are 'extensive legal duties' forced on the Amateur Auxiliary members who will assemble the case in chief; and that, because there are not envisioned a large number of hearings based on private sector

complaints, adequate rules and procedures already exist in the rules and statutes to address serious rule violations in the Amateur Service."

The other opponent of the petition, Henry Ruh, KB9FO, "...suggests in essence that there is no need for a private sector complaint procedure to address a relatively small number of instances of malicious interference; that the League cannot financially afford to sustain a program such as this; and he expresses concern about the possibility of complaints against amateurs based on other than objective criteria."

In a footnote to their Reply Comments, ARRL observed that Ruh's comments were "...unsubstantiated and largely illogical allegations aimed at the League ...and irrelevancies..."

The League said it was "...gratified at the substantial support of the Petition, and believes its proposal, though perhaps subject to some adjustment in implementation details, offers a reasonable solution to a serious problem that otherwise evades solution."

It added, "The level of enforcement in the Amateur Service is currently unacceptable and must be addressed more effectively, and it would appear that the source of any increased enforcement effort must be based on volunteer service, since no other source exists at the moment."

Volunteer service in rule compliance matters is presently authorized in the *Communications Act of 1934* and the FCC has implemented an agreement with the League to accept the services of the Amateur Auxiliary program.

"This is not exclusive," ARRL said. "...the Commission can accept volunteer service in the same context from other amateur groups as well. The Amateur Auxiliary is in place, and its volunteers have received the benefit of self training from the League. ARRL added that they "...believed that Amateur Auxiliary members have positive, ongoing working relationships with the residual Commission field office staff."

The League said it "...has committed to providing adequate support for its Amateur Auxiliary members in preparing and presenting the few cases that must go forward for formal adjudication. The structure and organization of the program, and the procedural safeguards proposed in the petition, should be adequate to provide objective, professional preparation and submission of evidentiary materials without fear of personal prejudices and influences."

The Amateur Auxiliary as the complainant

The League noted that the comments generally supported the use of the volunteer Amateur Auxiliary as the means of gathering evidence of malicious interference, identifying the perpetrator, and the preparation and submission of *prima facie* cases to the Chief Administrative Law Judge through the League for adjudication.

The Keller Peak Repeater Association suggested,

however, that the private sector complaint process should be available to anyone who wishes to prepare such materials and submit such a complaint. The League disagreed and believes that all cases should first be submitted through the Amateur Auxiliary "...since there is already in place a workable field organization for that purpose. Members of the Amateur Auxiliary would function as they do now; in the role of [an] evidence-gathering entity within the Amateur Radio Service. ...its goal and function is to encourage voluntary compliance, and to document instances of rule violations."

The League said its "...sponsorship of the Amateur Auxiliary, and the self-training of those volunteers, makes them the appropriate entities to prepare evidentiary materials." ARRL added they "...are in a better position to monitor, detect, and document instances of malicious interference, and to identify the source of those violations, than all amateurs generally."

"The larger reason for limiting the submission of private sector complaints to the Amateur Auxiliary, however, is to deter frivolous complaints, complaints submitted by individuals based on pre-existing ill-will between radio amateurs unrelated to on-air behavior of the accused, or through a misunderstanding of the elements of a rule violation."

The ARRL again emphasized that three factors would discourage the filing of frivolous complaints:

- (1) The requirement of a *prima facie* case by the Chief ALJ before the Commission even contacts the accused;
- (2) The limitation of the process to malicious interference cases only, "...the most serious rule violation in the Amateur Service"; and
- (3) The cases are to be presented only by the Amateur Auxiliary, with which the Commission has an agreement in place and operational.

The League's professional staff would assist in the presentation of the cases, and the Amateur Auxiliary members would merely be available for any necessary cross examination."

Role of the Chief Administrative Law Judge

ARRL said the "...comments filed are strongly supportive" of allowing Amateur Auxiliary members to directly present evidence of malicious interference to the FCC's Chief Administrative Law Judge.

Upon finding that the complaint and supporting evidentiary materials are sufficient on its face, the FCC would issue show-cause orders and designate complaints for administrative hearing.

ARRL clarified that the Chief Administrative Law Judge would not assume any prosecutorial role or function whatsoever in the process. "Rather, the concept is that the Chief ALJ would make the 'go-no-go' decision on a particular case in the same manner as does a Federal Magistrate in a probable cause determination. The Chief ALJ's job would be to evaluate evidence and decide only

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whether the case should go forward to hearing or not. The issuance of a show-cause order would be, in this context, a ministerial function, not a prosecutorial function, after a finding that the evidence is sufficient to justify contacting the accused and offering an opportunity for a hearing before an ALJ on the proffered evidence."

The prosecutorial effort would be the preparation and submission of the documentary evidence and the availability of those members of the Amateur Auxiliary to sponsor the evidence as a direct case exhibit, and to be available for cross-examination by the accused, or his or her attorney.

ARRL noted that "...the number of cases per year would not be substantial. ...a major goal is to increase the deterrence value of the cases brought, which, over time, will insure that only a minimal amount of actual enforcement is necessary."

ARRL SEEKS CHANGES TO CW WAIVER RULES

The ARRL has asked the FCC to change the way Morse code exam exemptions for severely handicapped applicants are handled. The League wants to change the procedural requirements in Part 97 that must be met, prior to granting examination credit.

Under the League's proposed changes, a candidate at least would have to attempt the CW test -- with any and all necessary accommodations -- before being granted an exam waiver based on a physician's certification. Also, Volunteer Examiner Coordinators (VECs) would be entitled to request medical information pertinent to an applicant's handicap from the certifying physician. VECs also would be required to have this information on file before the application is forwarded to the FCC for processing.

In its petition filed September 23, the League said the two "rather minor changes" are needed to restrict the waiver process to use by severely handicapped individuals "for whom the process was intended in the first place and who deserve the substantive accommodation."

The League also said the changes would "stem abuses" of the waiver system without putting unreasonable burdens on examinees. The CW waiver system has been in effect for seven years. The League says that experience has shown that many applicants without severe handicaps "have abused the process" by obtaining physicians' certifications of inability to pass the telegraphy examination.

At present, 8% of those applying through the ARRL-VEC have requested a medical exemption from the higher-speed code requirement. The W5YI-VEC reports similar experience. The League cited "a growing suspicion" in the ham community of anyone who has upgraded by using the waiver route. But the League said this is "completely unfair to those who require and deserve the exemption because they cannot be accommodated by procedural means."

FCC rules requires volunteer examiners to exercise

broad latitude in administering CW exams to accommodate handicapped applicants. Measures include using a flashing light or vibrating surface for hearing-impaired applicants, pausing in sending after sentences, phrases, words or even characters to allow an examinee time to interpret, or even substituting a sending test for a receiving test. Instead, the League observed in its filing, there is "a tendency for applicants to seek exemptions instead" of accommodations.

The League said it believes the procedural changes alone will help to deter those who might abuse the process while still allowing exemptions to deserving applicants.

AMATEUR RADIO STATION CALL SIGNS

...sequentially issued as of the first of October 1997:

Radio District	Group A Extra	Group B Advanced	Group C Tech/Gen.	Group D Novice
0 (*)	AB0GH	KI0KE	(***)	KC0CCA
1 (*)	AA1SS	KE1IP	N1ZSQ	KB1CFD
2 (*)	AB2EH	KG2MP	(***)	KC2CLQ
3 (*)	AA3QI	KF3AJ	N3ZXI	KB3BVI
4 (*)	AF4FS	KU4LB	(***)	KF4UEF
5 (*)	AC5NX	KM5MG	(***)	KD5CIQ
6 (*)	AD6DF	KQ6RZ	(***)	KF6NYQ
7 (*)	AB7WM	KK7KB	(***)	KC7ZHD
8 (*)	AB8BG	KI8DU	(***)	KC8IOH
9 (*)	AA9UY	KG9LK	(***)	KB9RLN
N. Mariana	NH0B	AH0AY	KH0GT	WH0ABF
Guam	(**)	AH2DE	KH2SL	WH2ANV
Hawaii	AH7X	AH6PD	KH7GU	WH6DEI
Am.Samoa	AH8P	AH8AH	KH8DK	WH8ABF
Alaska	AL0F	AL7QU	KL0KK	WL7CUM
Virgin Isl.	(**)	KP2CM	NP2JT	WP2AIJ
Puerto Rico	NP3O	KP3BC	NP3RE	WP4NNM

* = All 1-by-2 & 2-by-1 call signs have been assigned.

** = All 2-by-1 call signs have been assigned.

*** = Group "C" (N-by-3) call signs have now run out in all but the 1st and 3rd call district.

Note: New prefix numerals now being assigned in Puerto Rico (KP3/NP3), Hawaii (AH7/KH7) and Alaska (AL0/KL0)

[Source: FCC Amateur Service Database, Washington, DC]

NEW AND UPGRADING AMATEUR STATISTICS

For the Month of September 1996 & 1997

License Class	New Amateurs			Upgrading Amateurs		
	1995	1996	1997	1995	1996	1997
Novice	53	44	47	0	0	0
Technician	1836	1365	792	5	0	15
Tech Plus	167	113	96	318	269	245
General	29	29	16	315	331	240
Advanced	3	3	3	232	222	187
Extra Class	1	4	5	215	174	144
Total:	2089	1558	959	1085	996	831
Decrease:		(25.4%)	(38.4%)		(8.2%)	(16.6%)

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CUTTING EDGE TECHNOLOGY

■ **Motorola continues to launch its Iridium LEO satellites.** So far, 34 of the 66 satellite network have been orbited. The latest six satellites were launched Sep. 26 aboard a Delta rocket from Vandenberg AFB in California. (The first five went up on May 5, 1997.) When complete next year, the Iridium network will offer global direct satellite personal communications to and from any place on earth (including in-flight airliners and ships-at-sea) using a palm-size "wearable" cellular phone.

■ Intel is working with Ticketmaster to develop new technology that will **allow online ticket buyers to check the view of the stage, arena or sports field from specific seats before purchasing tickets** on the Web. It should be available within six months.

■ The Sep.-Oct 1997 issue of *"The Futurist,"* - journal of the non-profit *World Future Society*, says **people will eventually live in more than one place at once.** Modern telecommunications will make it possible for people with common interests to live in unregulated "telecommunities" which are not tied to geography or national borders. They could become very powerful through the sharing of information. It will lead to a new breed of entrepreneurs called "telepreneurs." Tension will develop between territorial powers and telecommunications. "Different telecommunications will form alliances with one another creating powerful new kinds of political blocs... An enormous variety of telecommunications will have great buying power, which will change the face of much of today's merchandising."

EMERGING COMMUNICATIONS

■ **WorldCom, Inc., of Jackson, MS seems bent on becoming the world's largest telecommunications company.** It could very well succeed. WorldCom - the No. 4 long distance company - has made an offer to acquire No. 2 MCI Communications Corp. for a whopping \$30 billion. Its first choice was AT&T!

It already owns UUNet Technologies, Inc., which operates more local Internet-access points than any firm in the world making WorldCom the world's largest provider of Internet services. The U.K.'s Brit-

ish Telecommunications previously offered \$18 billion for MCI. The financial markets liked the merger possibilities with BT, MCI and WorldCom stock all soaring!

Last month, you will remember, WorldCom acquired CompuServe - kept their network - and then shipped their online subscribers to American OnLine in exchange for AOL's own Internet backbone network.

You probably say who is WorldCom? They came out of no-where and are now bigger than you think! Their 1996 revenues were \$7.9 billion and they have been growing at about 25% a year. The Wall Street Journal (in February 1997) rated them as the "Top Performing Telecommunications Stock" of 1996.

The reason that you probably have not heard of them, is that they are a carrier's carrier. A big part of their business is wholesaling telecom to other resellers. WorldCom also provides local service in 52 North American cities - which would go to 92 is the MCI deal goes through.

Look for WorldCom to eventually make it big in the VON (Voice Over Network) business. We heard WorldCom is working on an Internet telephoning service for smaller ISPs to sell to their business customers. The voice service would be lower grade, but attractive because of its very low price.

A downside is that once the MCI acquisition goes through, WorldCom will dominate the Internet since it will control more than 60% of U.S. traffic and a good share worldwide. MCI is the largest Internet backbone provider, carrying 32 percent of the ISP market. The proposed acquisition will put WorldCom in a position to dictate Internet pricing ...including the end of the \$19.95 monthly flat rate. There is even a chance that it could also force small Internet Service Providers out of business by increasing their backbone access fees.

An advantage of the merger will be that the digital telecommunications market leader would be U.S. owned.

WorldCom's CEO is folksy 56 year old Bernie Ebbers, who lives in a suburb of Jackson, Mississippi. Originally from Edmonton, Alberta (Canada), Ebbers won a basketball scholarship to Mississippi College. His major was physical education and in the 1970's, Bernie became a high school basketball coach.

He later went into the motel business and invested in LDDS (Long Distance Discount Service) - a small, nearly bankrupt long-distance reseller in the mid-1980's.

The idea was hatched at the Days Inn Coffee Shop in Hattiesburg, MS.

LDDS began reselling long-distance service bought wholesale from AT&T. When stock in LDDS began rising, Ebbers used its value to buy up more long distance companies. The name was changed to WorldCom just a couple of years ago.

Over ten years, WorldCom has averaged a 53% annual return to its shareholders. A hundred dollar investment in WorldCom when it went public in 1989 would be worth more than \$3000 today. By pyramiding more than 50 successful acquisitions, Ebbers now controls a telecommunications giant operating in 50 countries.

His story is similar to that of Sam Walton who started his retailing career with a Ben Franklin 5 and dime store franchise. It later became Wal-Mart, the nation's largest retailer. The bearded Ebbers reportedly wears faded blue jeans, chomps on a cigar and drives his own tractor on his cattle ranch.

For the MCI acquisition to become a reality, WorldCom must receive FCC anti-trust approval, MCI stockholders must void the BT-MCI pact (and pay a \$450 million cancellation fee) and a majority of MCI stockholders must be offered to WorldCom for sale. Analysts say that it all appears "do-able."

■ **Wireless radio comes to the National Football League! NFL coaches are doing away with wired headsets.** No longer will some kid get to carry the coil of wire.

A new two-channel digitally-encrypted Telex® Radiocom™ wireless intercom system will let coaches communicate with offensive and defensive coaches on the sidelines and in booths above the field.

Sprint will provide the telecommunications while Telex provides the hardware. The new agreement requires that the Sprint logo appear on the headset with the Telex name on the microphone boom.

■ PairGain Technologies (Tustin, CA) has **developed a technology that electronically enhances the quality and speed of copper lines.** By using advanced digital signal processing techniques, the copper wire acts like fiber-optic cable. The technology can be used to get digital signals from the telephone company to the customer's residence or business which, at present, is all copper. It also can be used to deliver video over telephone wires. Lucent Technologies, the AT&T spinoff, is interested in acquiring the company.

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COMPUTERS & HARDWARE

■ **RCA Network Computers (based on Oracle's NC design) have begun showing up in stores.** The wireless version is \$349, \$299 for one with wires between the included keyboard and the set-top box. The Wall Street Journal's *Personal Technology* editor, Walter Mossberg said he found the unit to be inferior to WebTV. He said WebTV's value will increase even more once Sony, Philips and Mitsubishi launch WebTV Plus for \$299 (without the keyboard) which has new added features that NCs do not have - such as interactive television.

■ **Color laser printer prices are coming down! Minolta has become the first company to break the \$3,000 color laser barrier.** Its Color PageWorks printer yields 600-dot resolution and prints three color pages per minute. Tektronix has a \$4,000 Phaser printer with 1200-dot resolution at 5 ppm.

■ **A new line of low end Compaq computers began selling in Japan last month.** The Presario 2210 sells for around \$1,000 U.S. versus the average desktop price in Japan of \$1,600. But the introduction was embarrassing for Compaq since many of the PCS carried a rare virus that came from a manufacturing plant in Taiwan where production costs are lower. Globally, Compaq is the market leader with an 12.5 percent share. In Japan, however, Compaq has only a 3.7 percent share.

Top PC Brands & % Share of Market:

Rank & Brand	1996	1995
1 Compaq	12.5%	11.4%
2 Packard-Bell	8.3%	10.8%
3 IBM	8.0%	8.0%
4 Dell	7.1%	4.9%
5 Apple	6.2%	10.2%
6 Gateway 2000	6.1%	4.9%
7 Hewlett-Packard	5.0%	4.0%
8 Toshiba	4.7%	3.6%
9 Acer	3.4%	2.9%
10 NEC	2.5%	2.5%
All others	36.2%	36.8%
Units in Millions:	26.77	23.70

■ **CompUSA will shortly be joining mail order companies, Dell and Gateway 2000 in the build-to-order PC business.** Biggest problem to overcome is the razor-thin profit margins.

■ **56K modems apparently do not**

deliver 56K speed! *Windows* magazine tested six different brands. The phone lines have a big impact on speed and tests (using different lines) achieved connections at a maximum of 31.2 to 48K bps. Some connected at only 19.2. Furthermore, the "drop" or failure rate was 3 to 4 times that of older modems.

There are two different 56Kbps standards (x2 and K56flex) which are not compatible. Be sure to check out which 56K technology your ISP supports!

The U.S. Robotics x2 Sportster 56K Faxmodem (\$199) checked out the best overall. Motorola has the best K56flex modem (\$159.) Motorola recently dropped the price of its 56K modem. Street price is now around \$99.

■ **Personal computing continues its move toward the living room. Rumors are that Netscape will release a new \$299 "WebSurfer" TV Set-Top box within 30 days to compete with Microsoft's WebTV.** It will be manufactured by a Canadian firm, Batra International.

And Worldgate Communications (Bensalem, PA) plans to offer Internet service through a set-top converter box at \$12 a month.

■ **The Associated Press reported that Baltimore bank robbers were apprehended with the use of a radio-activated electronic tracking device hidden in packs of money.** A suspect was caught with the help of the "Beacon Bucks." The device is replacing "dye packs" that explode and cover both money and suspect in ink.

■ **A survey by market research firm, Service Intelligence, Inc., has found that computer support lines often leave much to be desired.** "Mystery shoppers" called tech support lines at six major software companies (Adobe, Microsoft, Corel, Intuit, Lotus and Maximizer) in a six week period. In 25% of the cases, technicians either provided the wrong answers or said the problem was unsolvable -- even though each question was taken from the companies' own Web site of frequently asked questions! In several cases, callers had to wait long periods of time to get through. Officials of the companies involved generally agreed the survey pointed out a need for improvement.

INTERNET NEWS

■ **Shopping over the Internet is not**

taking off! A research study puts the number of Internet users worldwide at 50 to 60 million - most of whom are in the United States. The Internet is forecast to grow by 54% a year between now and the year 2000.

Electronic commerce over the Internet is safe now, but people are reluctant to use their credit card on the Web because the perception is that it is not secure. As a result it will take time for business to blossom on the Web just "...as it took time for people to get used to ATMs (automatic teller machines.)"

■ **The Internet continues to be an information source rather than an entertainment or shopping medium.** That is the result of *Fifth Annual Interactive Media Study* by Advertising Age trade magazine. In response to the question:

What do you do when you go online?

Activity	1997	1996
Gather news or information	87.8%	82.0%
Send e-mail	83.2%	80.5%
Conduct research	80.5%	69.1%
Surf various sites	75.3%	66.9%
Play games	33.7%	23.8%
Participate in chats	30.8%	25.3%
Post to Bulletin Boards	30.0%	39.3%
Shop	17.8%	14.9%

■ **U.S. trade organizations want the United States to retain control of the Internet address system** rather than privatize it to various non-governmental registrars located around the globe. Under the new plan, addresses under seven new generic domains were to have been issued by 28 competing registries beginning August 15th ...their activity overseen by a Council of Registrars based in Switzerland. But it has not happened.

The Clinton administration intends to put forward its own Internet naming plan within a month. The government can only make recommendations because it has no authority over Internet administration.

Network Solutions, Inc., a Herndon, Virginia company under contract with the National Science Foundation, currently issues the .com, .org and .net generic domain addresses. Their contract, due to expire on March 31, 1998, will probably be extended by another six months.

■ **Microsoft said it distributed 1.2 million copies of its new Internet Explorer - Version 4.0 browser in the first two days after the final version was released!** See related story on page 10.

■ **Digital cameras are becoming more**

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popular and **Kodak is launching a virtual digital photo printing and storage service on the Internet.** Subscribers (at \$4.95 a month) will be able to store up to 100 pictures and order paper prints. And friends and relatives will be able to view your stored photographs with a password.

■ **"Play-for-Pay" arrives on the World Wide Web. A new on-line multi-player "fantasy, role-playing" game called "Ultima Online" has been released** after nearly two years of development. It costs \$64.95 for the CD-ROM software and \$9.95 a month to play the game! And nearly 3,000 simultaneous players can be online at once! The big question is, will the public pay ten bucks a month to play? See: <<http://www.ultimaonline.com>>

■ **The Forbes annual list of the 400 richest Americans has Microsoft CEO Bill Gates continuing as the world's wealthiest.** He went from a net worth of \$18.5 billion in 1996 to \$39.8 billion this year. Based on 260 eight-hour business days a year, that's more than \$15 million an hour.

WASHINGTON WHISPERS

■ **FCC Confirmation hearings focus on "Competition."** President Bill Clinton's four nominees for the Federal Communications Commission appear headed for an easy confirmation. In one fell swoop, the FCC will be adding four new Commissioners - the biggest membership change in its 63 year history. Of the five Commissioners only Susan Ness, a Democrat will be retaining her seat.

The FCC is considered the most prominent federal agency - mostly because of its fund raising ability and the economic impact of the burgeoning telecom industry on the nation. Its auctions contribute huge funding to the U.S. treasury. The Telecommunications Act of 1996 was meant to open the communications industry to competition. It has yet to happen.

Most Americans still live in the monopolistic world of one local telephone company, one cable TV provider and rising rates. A federal court recently complicated the matter by ruling that states - and not the federal government - have the right to set key competitive terms and pricing.

Three of the FCC picks, Gloria Tristani, Michael Powell and Harold Furchtgott-Roth testified before the Senate Commerce Committee headed up by Sen. John McCain (R-Ariz.) on Sept. 30.

FCC general counsel William Earl Kennard, 40, Clinton's choice for chairman, testified before the panel the following day. The hearings were carried live on CSPAN. Kennard graduated from Stanford University in 1978 and from Yale Law School in 1981. He is a previous assistant general counsel for the National Association of Broadcasters.

If confirmed, Kennard - a Los Angeles native and a Democrat - would become the agency's first black FCC chairman. The confirmation hearings were not easy sailing for Kennard. McCain let it be known that he was not happy with the agency's implementation of the 1996 Communications Act.

The panel wanted assurances that the Commission would clear the way for competition among telecom firms as mandated in the 1996 law. So far, real competition in most markets remains in the future. Rather than compete, the telecom industry has shown a tendency to combine. McCain contends there is ample evidence that the telecom act was fostering mergers instead of consumer benefits.

Kennard said the FCC has been working 'round-the-clock on new rules. He said his "guiding principles" as FCC Chairman would be "competition, community, and common sense." Senator Sam Brownback (R-Kansas) said the FCC should "...be guided by the straight language of the statute..." Kennard responded "many times congressional intent is not particularly clear, and often there is disagreement among members of Congress."

Kennard said that he would be conducting a "top-to-bottom" review to streamline the agency and would be installing a computer-tracking system to insure that each of the 6,000 letters the agency receives from Congress gets answered.

All FCC nominees are expected to easily clear the full Senate by the end of the month. Actually, all of the politicking over the nominations took place even before they were announced. And for the first time in 17 years, Democrats will have a voting majority at the FCC. 1999.

■ **Major crack down on illegal CB equipment!** The FCC has been working with the U.S. Attorney's Office for the Western District of Michigan and the U.S. Customs Service in an ongoing investigation into the manufacture, importation, distribution and sale of illegal CB transceiver radios and power amplifiers. In a 21-count indictment, ten defendants are charged with importing and distributing the illegal equipment into the U.S.

Currently under indictment are Ranger Electronic Communications, Ranger Communications Inc. USA, Tseng JYI (Jim) Feng, CTE International SRL; Corrado Torreggiani, Giuseppe Coppola, Texpro Sales Canada, Inc., John Summachi, Parkside Trading (also known as President Export) and Aron Tyrnauer (also known as Adam.)

The defendants are also charged with money laundering. They are subject to a maximum twenty years imprisonment and \$250,000 fine and five years' supervised release. The corporations involved face a \$500,000 fine or double the value of the illegal equipment whichever is more.

In related actions earlier this year, Judy Korp, Business Manager of A-1 Telecom, pled guilty to being an accessory after the fact in the importing of contraband electronic equipment.

Angela Jones pled guilty to the illegal manufacture, distribution and sale of linear amplifiers and C.C.G., Inc. pled guilty to mail fraud in connection with the distribution of the equipment. Both Jones and C.C.G., Inc. admitted to manufacturing illegal linear amplifiers.

Later, Samuel Lewis and R-F Limited of Redmond, Washington pled guilty to the making and selling illegal amplifiers. Lewis has agreed to pay \$11,894 in forfeiture and civil fines and faces a maximum sentence of one year in jail.

Greg Lowry of Milton, Ohio, also pled guilty to the making and selling of illegal amplifiers and will pay the Government \$20,000 in fines. He also faces one year in jail. Sentencing of Lewis, Lowry and Jones is pending.

The FCC said "The investigation and prosecution of other manufacturers, importers and distributors continues."

■ **After ignoring FCC warnings, another low power unlicensed FM radio station was shut down last month in Sacramento, CA.** Community Power Radio, operating on 100.1 MHz had its transmitters seized by agents from the FCC's San Francisco Office and the U.S. Marshal Service. The illegal broadcasts, by operators Abdul Rahman Muhammad and Mike Colbert, had drawn a number of complaints.

■ **Senator Faircloth (R-NC) has introduced legislation that would ban games from federal computers.** He says a survey claims workers playing computer games cost billions of dollars a year in lost productivity. Games (like Solitaire) are included on government PCs to help users learn how to control the computer

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mouse. While some agencies are removing all games from their PCS, a Labor Dept. employee turned up more than 10,000 game sites with a simple Internet search. Software is now being tested that will monitor game playing. [Reported by CNN.]

■ **The FCC will put its public comment files online by year's end.** The agency is in the process of launching a system that will let people file comments via a form on the World Wide Web. The objective of the new Electronic Comment Filing System is to save staff time and to make it easier for the public to file and retrieve comments. The system is in the beta test phase now.

AMATEUR RADIO

■ **A quote by Ron Gang, 4X1MK in the June issue of the Israel Amateur Radio Club newsletter:** "In these days where technological advances sadly seem to have replaced manual skills, craftsmanship on the part of consumers who can now rely on machines to do their work, Morse is no longer a necessity. In the old days it was necessary, but today, no more."

I say to my fellow hams: be tolerant. There is today much more to being a good radio amateur than just knowing Morse. In the interest of allowing our hobby to grow and stay with the developing phases of communications, we must free the amateurs on HF as well of having to be skilled Morse operators."

The third and last IARU Regional Conference (Region 2) will be held September 28 to October 2, 1998 in Caracas, Venezuela. Both the IARU Region 1 Conference (in Tel Aviv, Israel - Sep. 1996) and IARU Region 3 Conference (in Beijing, China - Sep. 1997) voted to retain the Morse treaty requirement. WRC-99, which will consider the Morse issue - as well as amateur radio in general - is scheduled to meet in October 1999.

■ **Amateurs can now renew their licenses on-line within 6 months of expiration using the FCC's new FCC Form 900, Application for Electronic Renewal of Wireless Radio Services Authorizations.** You can also enter name and address changes on the form as part of the renewal process.

Form 900 may only be submitted electronically and there is no paper version of the FCC Form 900. Instead of your birth date, you must enter a Social Security Number for the taxpayer ID number.

(This allows the Commission to comply with the *Debt Collection Act of 1996*.) The new form is part of the new Universal Licensing System (ULS) which will eventually consolidate the FCC's eleven different radio service licensing systems into one.

Access Form 900 on the FCC's WTB Electronic Commerce page at URL: <http://www.fcc.gov/wtb/electcom.html> (click on *Production Page for Electronic Commerce Applications* to access the Form 900). Click on any item number for filing instructions. Once you have filed the form, clicking on Electronic Renewal Query lets you view or print the information submitted.

■ **The Old Old Timers Club, Inc., (OOTC) is 50 years old this week!** The club started in mid-October 1947 when Irving Vermilya (WIZE), Roland Bourne (W1ANA) and Hubert Ingalls (W1NQ) put together a constitution. They became OOTC's first president, vice president and secretary.

Thirteen amateurs were the first members - each had at least 40 years experience as a ham. Ingalls actually started the club to get back in touch with long lost friends and acquaintances made in years gone by. OOTC is incorporated in the state of Rhode Island ...their monthly journal is the "Spark Gap Times."

Irving, WIZE - the first president of OOTC - was also the holder of the first amateur operator license issued by the U.S. Government on December 12, 1912. And he was on the scene at Signal Hill, St. John, Newfoundland when Marconi first spanned the Atlantic Ocean in 1901 with his radio signal. The current president is Leland Smith, W5KL of Harrison, Arkansas.

[Your editor, Fred W5YI is also an OOTC member! I can remember waiting to become a QCWA member which seemed to take forever. The time between QCWA and OOTC eligibility seemed to fly by much faster.]

■ **The American Radio Relay League has sent in reply comments on a May 19, 1997 Petition for Rulemaking by the Intelligent Transportation Society of America. ITS America (formerly Intelligent Vehicle Highway Systems) seeks a primary spectrum allocation in the 5.850 to 5.925 GHz band to provide a real-time computerized "Dedicated Short-Range Communications" (DSRC) service to vehicles.** A similar Location and Monitoring Service (LMS) exists in the 902-928 MHz band but (according to ITS America) lacks adequate bandwidth.

The 5.850 to 5.925 GHz band is

currently allocated on a primary basis to non-Government Earth-to-Space (satellite) service and for military radars. In addition, ISM (Industrial, Scientific and Medical) devices operate centered on 5.8 GHz.

The ARRL is concerned since 5.650 to 5.925 GHz is shared on a secondary basis with the Amateur Service in ITU Region 2. One of the commenters (3M Corp.) urged the FCC to remove secondary users from the proposed band - and ITS America itself said DSRC must operate on interference-free frequencies.

The League said that any FCC action on the spectrum request is premature and that the next step should be a *Notice of Inquiry* to obtain needed technical information and to identify replacement spectrum for any displaced users. [Filed Sep. 17, 1997 by ARRL]

■ **The Shuttle Amateur Radio EXperiment is de-emphasized as space shuttle missions go live on the Web.** In order to reach more citizens, NASA has decided to "webcast" a series of real-time video interviews, conferences and other mission events live on the World Wide Web. The new direction began with the recently completed Space Shuttle Atlantis mission which exchanged ham astronauts Mike Foale KC5UAC for Dave Wolf, KC5VPF on the aging Russian Mir space station. Even though two other U.S. licensed ham operators were on board Atlantis, there were no SAREX school contacts or amateur radio operation on STS-86.

Wolf's mission to Mir went ahead despite Congressional criticism that the station was no longer safe.

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AMATEUR RADIO RF SAFETY "SUPPLEMENT B"

FCC Issues Draft Copy of Amateur Radio Supplement

The FCC's Office of Engineering and Technology has issued a review copy of their soon to be released OET Bulletin 65 "Supplement B." The draft was released on October 3rd to reviewers by Robert F. Cleveland, Jr., Ph.D who heads up the OET Bureau. He set a comment deadline of October 16th.

The plans are to release the amateur supplement to the amateur community no later than early November. Certain amateur radio installations are subject to routine evaluation for compliance with the FCC's RF exposure guidelines effective January 1, 1998.

"Supplement A" was developed for commercial radio and television broadcast stations. "Supplement B" contains additional information for use in evaluating compliance of Amateur Radio stations with FCC guidelines for exposure to radiofrequency electromagnetic fields. The principal authors are Jerry L. Ulcek and Robert F. Cleveland.

In 1985, the FCC first adopted guidelines to be used for evaluating human exposure to RF emissions based on the 1982 protection guides issued by the American National Standards Institute (ANSI). When ANSI/IEEE revised the RF safety standards in 1992, the FCC began a rulemaking proceeding the following year which looked toward updating their guidelines for human exposure.

The new RF Safety guidelines, adopted by the Commission on August 1, 1996, incorporate limits for Maximum Permissible Exposure (MPE) in terms of electric and magnetic field strength and power density for transmitters operating at frequencies between 300 kHz and 100 GHz. They are based on data showing that the human body absorbs RF energy at some frequencies more efficiently than others.

The FCC's MPE limits use safety levels recommended by the *National Council on Radiation Protection and Measurement* and the 1992 ANSI/IEEE standards. The NCRP is a non-profit corporation chartered by the U.S. Congress to develop information and recommendations concerning radiation protection.

The new FCC limits for exposure incorporate two tiers of exposure limits based on whether the exposure occurs in an occupational or "controlled" situation or whether the general population is exposed or exposure is in an "uncontrolled" situation.

Amateur radio operators and members of their immediate household are considered to be in a "controlled environment" and are subject to the occupational/controlled MPE limits. Neighbors who are not members of an amateur operator's household are considered to be members of the general public, since they cannot reasonably be expected to exercise control over their exposure. In those cases general population/uncontrolled exposure MPE limits apply.

In order to qualify for use of the occupational/con-

trolled exposure criteria, appropriate restrictions on access to high RF fields areas must be maintained and educational instruction in RF safety must be provided to individuals who are members of the amateur operator's household. Persons who are not members of the amateur operator's household but who are present temporarily on an amateur operator's property may also be considered to fall under the occupational/controlled designation provided that appropriate information is provided them about RF safety exposure potential if transmitters are in operation.

A revised OET Technical Bulletin No. 65 *Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields* was released earlier this year. At that time, OET said that they would prepare a supplement expressly for amateur radio stations. The introduction to the new "Supplement B" points out that amateur radio facilities are now subject to routine evaluation when they are operated above certain power threshold levels.

OET emphasized that Bulletin 65 and "Supplement B" offer guidelines and suggestions for evaluating compliance "...they are not intended to establish mandatory procedures, and other methods and procedures may be acceptable if based on sound engineering practice."

Amateur licensees are expected to demonstrate their knowledge of the FCC guidelines through examinations and certifying as part of the application process that they have read and understand the RF exposure rules. New RF Safety exam questions were implemented in the Element 2 (Novice) and 3A (Technician) question pools this past July. Additional RF safety questions are in the process of being added to the General (Element 3B) pool scheduled for use effective July 1, 1998. The VEC's Question Pool Committee routinely submits all potential RF safety questions to OET for review before adoption.

A routine RF radiation evaluation is required if the transmitter power exceeds the level shown below:

Power Thresholds for Routine Evaluation

Wave-length	Power/watts	Wave-length	Power/watts	Wave-length	Power/watts
160 m	500	17 m	125	33 cm	150
80 m	500	15 m	100	23 cm	200
75 m	500	12 m	75	13 cm	250
40 m	500	10 m	50	SHF (all)	250
30 m	425	VHF (all)	50	EHF (all)	250
20 m	225	70 cm	70		

Amateur radio facilities represent a special case for determining exposure, since various antenna types and installations, operating frequencies, duty cycles and power levels can be used. The FCC has concluded that most stations will not exceed their guidelines. Tables in the new "Supplement B" represent a sample of the more common types of ham antennas. For antennas not covered by the tables, it may be necessary for the amateur

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operator to calculate the fields that are present by means of equations from OET Bulletin 65, computer modeling or direct measurement techniques. A power density "calculator" by Ken Harker, KM5FA is available on the World Wide Web at <http://www.utexas.edu/students/utarc/>

Much of "Supplement B" contains complex mathematical formulas which can be used to predict exposure. As a member of the VEC's Question Pool Committee, it was my view that use of these equations is beyond the

capability of youngsters and many others who wish to enter the Amateur Service.

Toward that end, we created a table of typical amateur station operating conditions. The table yields the distance required (in meters) that amateur stations should be from the controlled and uncontrolled environments at various power levels and assuming typical antenna gains for the ham bands. OET has included this table in the "Supplement B" booklet.

TABLE 3. (Submitted by Fred Maia, W5YI Group). Estimated distances from transmitting antennas necessary to meet FCC power density limits for Maximum Permissible Exposure (MPE) for either occupational/ controlled exposures ("Con") or general population/uncontrolled exposures ("Unc") using typical antenna gains for the amateur service and assuming 100% duty cycle and no surface reflection.

Freq (MHZ)	Antenna Gain (dBi)	Distance from antenna (meters) and the necessary environment							
		Peak Envelope Power (watts)							
		100 watts		500 watts		1000 watts		1500 watts	
		Con.	Unc.	Con.	Unc.	Con.	Unc.	Con.	Unc.
1.8	3	0.13	0.17	0.28	0.38	0.40	0.53	0.49	0.66
3.8	3	0.16	0.36	0.36	0.80	0.50	1.13	0.62	1.38
7.1	6	0.42	0.94	0.94	2.11	1.33	2.98	1.63	3.65
10.1	9	0.84	1.89	1.89	4.23	2.68	5.99	3.28	7.33
14.1	9	1.18	2.64	2.64	5.91	3.74	8.36	4.58	10.23
18.1	9	1.52	3.39	3.39	7.58	4.80	10.73	5.87	13.14
21	9	1.76	3.94	3.94	8.80	5.57	12.44	6.82	15.24
24.9	9	2.09	4.67	4.67	10.43	6.60	14.76	8.08	18.07
28.5	9	2.39	5.34	5.34	11.94	7.55	16.89	9.25	20.68

Freq. (MHZ)	Gain (dBi)	50 watts		100 watts		500 watts		1000 watts	
		PEP		PEP		PEP		PEP	
		Con.	Unc.	Con.	Unc.	Con.	Unc.	Con.	Unc.
51.0	12	2.51	5.62	3.55	7.94	7.94	17.76	11.23	25.11
145.0	12	2.51	5.62	3.55	7.94	7.94	17.76	11.23	25.11
223.0	12	2.51	5.62	3.55	7.94	7.94	17.76	11.23	25.11
440.0	12	2.07	4.64	2.93	6.56	6.56	14.66	9.27	20.74
1270.0	12	1.22	2.73	1.73	3.86	3.86	8.63	5.46	12.21

Note: Multiply above distances by 0.707 if duty cycle is 50% - such as during a typical back and forth communications exchange. to convert from meters to feet multiply meters by 3.28. Distance indicated is shortest line-of-sight distance to point where MPE limit for appropriate exposure tier is predicted to occur.

Professor Wayne Overbeck, N6NB of California State University at Fullerton and the FCC provided many different charts using various power levels, frequency bands and antenna configurations for both the occupational/controlled and general population/uncontrolled environments. Two versions of the same table are given: one with surface (ground) reflection - the other assuming no surface reflection. The effect of surface reflection, generally extends the distance to the controlled and uncontrolled environment by more than 50%.

The American Radio Relay League also provided

some complex tables based on a NEC-4 (Numeric Electromagnetic Code - Version 4) computer modeling program. This program determines the RF exposure at various heights above ground level. For example: people on the ground floor of a residential home would receive less exposure than people on the third floor of an apartment building who would be closer to the antenna.

One thing became very clear to me after reviewing the "Supplement B" addendum. The measurement of the amount of RF radiation in the environment is very complicated and dependent on many parameters.

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MICROSOFT ROLLS OUT INTERNET EXPLORER 4.0

New browser is tied to the Windows operating system

In true glitzy Microsoft fashion, Bill Gates and Company formally introduced the updated version of its Web browser on Sept. 30th. He chose a huge waterfront San Francisco warehouse for the gala IE 4.0 rollout. Microsoft was in the city to participate in a week-long publishing trade show.

In a nutshell, Microsoft has closely integrated the Web with its Windows operating system. The two basically now become one - something that Netscape is furious about! They charge that Microsoft continues to use its operating system stronghold to capture the browser market which it pioneered. Netscape's marketing approach is to include their browser as part of a suite of applications.

The Department of Justice is already looking into Microsoft's activities. Renowned consumer advocate, Ralph Nader wants the government to step in and stop what it considers to be Microsoft's "...anti-competitive and monopolistic" Internet business practice of bundling programs with their operating system. Nader's watchdog group says Microsoft should build a wall between its systems and applications divisions.

Once IE 4.0 is installed, you will have icons on your desktop that apply to both your hard drive and the Internet -- you go back and forth between applications and the Web with a mouse click. There are even Windows forward and back buttons just like on a browser.

Gates clearly wants to be the worldwide entry point into all aspects of personal computing and he is well on his way. The marrying of the browser to the operating system will even be taken a step further when Microsoft releases its Windows 98 in the second quarter of next year. Microsoft's concept is that one program controls everything. Not to be outdone, Netscape is working on a program (code-named "Aurora") that lets you view your PC's hard drive similar to viewing the Web.

IE 4.0's Active Channels incorporate "push" technology (which sends tailored Web information to users without searching for it) and off-line browsing - features already in the latest Netscape Navigator browser released this summer. Microsoft has already signed up more than 100 partners to produce push channels for IE 4.0.

They also have marketing agreements with all of the nation's top Internet Service Providers ...including America OnLine, AT&T's WorldNet, EarthLink, GTE, MCI, NetCom, Prodigy, Sprint, MindSpring, Microsoft Network, SpryNet and Time Warner's Road Runner. Software publishers (such as Lotus) and computer manufacturers (including Apple, Compaq, Hewlett-Packard, IBM and Dell) are also on board. A major component of Microsoft's recent \$150 million investment in Apple Corp., was an agreement that the Internet Explorer would be its default browser. In short, most PCs sold during the important holiday season this year will have IE 4.0 installed on the hard drive.

While Netscape Navigator remains the most popular on the Internet, it has steadily been losing ground to Microsoft's Explorer. Just how much depends upon which research report you believe. A year ago, Microsoft had 10% of the browser market, it is now up to 36%. That is according to a Zona Research report issued last month. In May, Dataquest said Microsoft's Internet Explorer had a 31% market share. But in July, Forrester Research said that Netscape's market share was 78% to Microsoft's 12%. Netscape itself claims up to an 80% browser share in corporations and 90% in the education market. In any event, Microsoft believes that the introduction of IE 4.0 will now propel it past the 50% share point to take the lead as the most popular. They certainly has enough "deals" cooking to make that a reality!

Netscape is quick to point out that its browser works with different operating systems. IE 4.0 is clearly aimed towards the Windows 95 and NT environment. But then, 80% of all PCs in the world run Windows. IE 4.0's value will be the strongest for businesses that use the Internet on a regular basis.

The new Internet Explorer 4.0 can be downloaded free from the Microsoft website - or you can purchase an easy-to-install CD-ROM for \$4.95. IE 4.0's file size is 11 MB - 25% more than the new Netscape Navigator 4.0. Should you upgrade to a 4th generation browser? The answer is, "Yes!" If you have room, put them both on your hard drive and decide for yourself which is better.

We have been watching the reviews and it appears that most prefer IE 4.0. *PC Magazine* said it "surpasses Netscape Communications Communicator in functionality and ease of use." *PC Week*, *LAN Times*, *InfoWorld*, *WebWeek*, *ZDNet* and *PC World* all had very good things to say in their reviews.

CNET, the highly-regarded online high-tech service, said in its *Battle of the Browsers* story "For Windows 95 or NT 4.0 users, picking a winner is easy: Internet Explorer 4.0. It simply offers more; an easier interface, higher performance, and better integration with the operating system." *Hot Wired* said "Microsoft's Internet Explorer 4.0 is good software. Really good. Way better than Netscape."

And here's a quote from Walter Mossberg's *Personal Technology* column in the October 2nd *Wall Street Journal*: "Microsoft's new Internet Explorer browser and its companion Outlook Express mail package are decisively superior to the latest version of Netscape's Navigator browser. That's bad news for those who think the big company has too much power. But it's good news for consumers, because the new Microsoft versions gained their superiority largely by making the Web and e-mail easier for the average person to use. And not only are they better but they are still free of charge. ... [The] Internet Explorer displayed complex pages faster and crashed much less often than Netscape Navigator. I heartedly recommend Internet Explorer 4.0 and Outlook Express. They are among the best programs Microsoft has ever published."